

REMARKS/ARGUMENTS

Applicants and Applicants' attorney express appreciation to the Examiner for the courtesies extended during the recent interview held on October 7, 2003. Reconsideration and allowance for the above-identified application are now respectfully requested. Claims 29-55 are pending, wherein all previous claims have been cancelled. As a result, all previous arguments and representations regarding the previously amended claims are inapplicable to the newly presented claims unless stated otherwise. Similarly, the rejections in the Office Action concerning the alleged addition of new matter and failure to comply with the written description requirement of 35 U.S.C. § 112, ¶ 1 have become moot in light of the content of new claims 29-55.

Support for new claims 29-55 is as follows:

<u>Claim</u>	<u>Support</u>
29	Original claims 1 and 3; Spec., p. 4, lines 19-23; p. 7, lines 2-18
30	Original claim 6
31	Original claim 2
32	Figure 7D
33	Original claim 7
34	Original claim 7
35	Original claim 11
36	Figures 7A, 7B, 7C
37	Figures 6, 7A, 7B, 7D
38	Figure 4, 7D; Spec., p. 7, lines 2-22
39	Original claim 2
40	Figure 7D
41	Original claim 7
42	Original claim 7
43	Original claim 11
44	Figures 7A, 7B, 7C
45	Figures 6, 7A, 7B, 7D
46	Figure 4; Spec., p. 7, lines 2-22
47	Original claims 1 and 3; Spec., p. 4, lines 19-23; p. 7, lines 2-18

<u>Claim</u>	<u>Support</u>
48	Original claim 6
49	Original claim 2
50	Figure 7D
51	Original claim 7
52	Original claim 7
53	Original claim 11
54	Figures 7A, 7B, 7C
55	Figures 6, 7A, 7B, 7D

The Office Action rejects claims 1, 2, 7, 10, 11, 14-16, 21 and 23-25 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,014,359 to Nagano.¹ The Office Action also rejects claims 5, 6, 27 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Nagano. In light of the fact that all previous claims have been cancelled the foregoing rejections have become moot. Nevertheless, consistent with what was discussed during the Examiner Interview, Applicants will show that the new claims distinguish over Nagano.

Nagano discloses an optical head that is used to read and write data to an optical storage disk. Critical to the operation of the optical head is the polarizing diffractive element 3. As explained during the Examiner Interview and in previous amendments, the polarizing diffractive element is not a linear polarizer, and for good reason. Including a linear polarizer together with a quarter wave retarder plate, as recited in claims 29 and 47 of the present application, would block all light reflected back from the optical disk. Because the entire purpose of Nagano is to provide an optical head for reading data from an optical disk, it would be contrary to Nagano to include a linear polarizer in combination with a quarter wave retarder plate in the manner recited in claims 29 and 47 because to do so would block all reflected light before the optical head is able to read it, thus rendering the optical head inoperable. Therefore, Nagano implicitly teaches away from the use of any device or combination of devices that would render the optical head of Nagano inoperable and unsuitable for its intended purpose. Because of that, one of skill in the art would not have been motivated by Nagano to combine a linear polarizer and a quarter wave retarder plate in the manner recited in new independent claim 29 and dependent claim 47.

¹ Because Nagano is, at best, only citable under 35 U.S.C. § 102(a), Applicants do not admit that Nagano is in fact prior art but reserve the right to swear behind Nagano at some future time to remove Nagano as a reference.

When rejecting claim 5, the Office Action asserts that “it would have been an obvious matter of design choice” to include a linear polarizer instead of the polarizing diffractive element of Nagano “to block the reflected light from return[ing] to the laser.” This statement begs the question as to why one of skill in the art would have been motivated to replace the polarizing diffractive element of Nagano, which does not block reflected light but allows it to pass virtually unimpeded therethrough, with a linear polarizer, which would block the reflected light. See Nagano, col. 4, lines 28-48; Figures 2A, 2B, 5A, 5B, 8A and 8B; *compare* Application, p. 4, lines 19-23; p. 8, lines 5-13. Since the polarizing diffractive element of Nagano and the linear polarizer in the present application are different devices that produce completely different results when used together with a quarter wave retarder plate, they are clearly not interchangeable. Moreover, because the use of a polarizing diffractive element causes the optical head of Nagano to work as intended, but because substituting the polarizing diffractive element with a linear polarizer would render the optical head inoperable, the two alternative elements are clearly not matters of mere design choice. They represent fundamentally opposing choices that go to the heart of whether the Nagano device works or not. In view of this, Applicants submit that new independent claim 29 is neither anticipated by nor obvious over Nagano.

New independent claim 38 alternatively recites an embodiment in which:

the laser apparatus does not include any polarizing element positioned between the laser and the quarter wave retarder plate so that light reflected back toward the laser that has a linear polarization that is orthogonal to the linearly polarized light emitted by the laser continues toward the laser unimpeded by any polarizing element but does not couple back onto the oscillation mode of the laser.

Because the polarizing diffractive element of Nagano is a critical feature of the optical head, being responsible for its proper operation, it would be contrary to the teachings of Nagano to omit the polarizing diffractive element. See Title; Figures 2A, 2B, 5A, 5B, 8A and 8B; col. 1, lines 5-7; col. 4, line 27; col. 5, line 50; col. 7, lines 3-21; col. 8, line 24; col. 9, line 44; col. 10, lines 1-14. Because of this, Nagano implicitly teaches away from the laser apparatus of new independent claim 38, which “does not include any polarizing element”. In view of this, Applicants submit that new independent claim 38 is neither anticipated by nor obvious over Nagano.

New independent claim 46 alternatively claims an embodiment of a light emission and transmission system that comprises "an optical fiber positioned relative to the laser so that at least a majority of the light emitted by the laser is transmitted away from the laser." Because Nagano discloses an optical head whose purpose is to read data stored on an optical disc, it would be contrary to Nagano to replace the optical disc with an optical fiber "so that at least a majority of the light emitted by the laser is transmitted away from the laser" instead of being reflected back to the optical head. Since reading or writing to an optical disc is the fundamental purpose of Nagano, Nagano implicitly teaches away from any modification or combination of elements that would destroy the ability of the optical head to read and write data from an optical storage medium. In view of this, Applicants submit that new independent claim 46 is neither anticipated by nor obvious over Nagano.

The dependent claims are patentable for at those reasons given above with respect to the independent claims. In addition, they include additional limitations that further serve to distinguish over the art of record.

Finally, the Examiner asked Applicants during the Examiner Interview to clarify the difference between a Faraday rotator and a quarter wave retarder plate. A Faraday rotator rotates linearly polarized light 45°, while the quarter wave retarder plate does not, but instead circularly polarizes light by quarter rotation, or $\pi/2$. The two are different devices that perform different processes to yield different results. In addition, a Faraday rotator is more expensive.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 12th day of November 2003.

Respectfully submitted,



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